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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/785,659

Applicant(s)

LEVY ET AL.

Examiner

Jin-Cheng Wang

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 July 2007.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 45-57 and 60-88 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 45-57, and 60-88 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All. b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION***Response to Amendments***

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 7/6/2007 has been entered. Claims 1-44, and 58-59 have been canceled. Claims 45 and 48 have been amended. Claims 60-88 have been newly added. Claims 45-57, and 60-88 are pending in the present application.

Response to Arguments

Applicant's arguments filed July 6, 2007 have been fully considered but they are moot in view of the new ground of rejection based on US Patent No. 6,430,605 (hereinafter Hunter) and Gelbman U.S. Patent No. 6,924,781 (hereinafter Gelbman).

Hunter teaches a method of altering information displayed on an operable, designated data input area of a data input device, the method comprising:

Providing a data input device with one or more data input areas having visible labels associated with the input areas (the electronic billboard has one or more data input areas for the pixels having visible labels with the pixels; see column 2, lines 50-60 wherein the most of the electronic sale items);

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Selling display time on a first one of the data input areas to a third party (See column 5, lines 22-45 and column 8, lines 20-45 wherein the customers or third parties directly purchase time from available slots according to a fixed fee schedule and all previously purchased slots and all unsold slots are auctioned through a bid process by selling time slots to a third party through auction); and

Transmitting a signal including data associated with the third party to the data input device from a remote location to alter the visible label of the first one of the data input areas of the data input device in response to the signal (See column 9 wherein electronic ink displays have the visible label-ink that will hold text for an extended period of time without consuming power and the message can be changed virtually instantly to a new message. In one embodiment, the format and content of displays may be controlled by each store without direct input from the other stores or the company's headquarters. The electronic ink meets the claim limitation of "visible label" and the advertisement signals are displayed on the display areas of the electronic display through the data input areas of the display).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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Claims 45, 47-55, and 60-73, 75-76, and 78-88 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hunter US Patent No. 6,430,605 (hereinafter Hunter) and Gelbman U.S. Patent No. 6,924,781 (hereinafter Gelbman).

Re Claims 45, 70, 75, 78, and 84:

Hunter teaches a method of altering information displayed on an operable, designated data input area of a data input device, the method comprising:

Providing a data input device with one or more data input areas having visible labels associated with the input areas (*the electronic billboard has one or more data input areas for the pixels having visible labels with the pixels; see column 2, lines 50-60 wherein the most of the electronic sale items*);

Selling display time on a first one of the data input areas to a third party (*See column 5, lines 22-45 and column 8, lines 20-45 wherein the customers or third parties directly purchase time from available slots according to a fixed fee schedule and all previously purchased slots and all unsold slots are auctioned through a bid process by selling time slots to a third party through auction*); and

Transmitting a signal including data associated with the third party to the data input device from a remote location to alter the visible label of the first one of the data input areas of the data input device in response to the signal (*See column 9 wherein electronic ink displays have the visible label-ink that will hold text for an extended period of time without consuming power and the message can be changed virtually instantly to a new message. In one embodiment, the format and content of displays may be controlled by each store without direct input from the*

other stores or the company's headquarters. The electronic ink meets the claim limitation of "visible label" and the advertisement signals are displayed on the display areas of the electronic display through the data input areas of the display).

It is not clear whether Hunter uses exposed surfaces of manipulable keycaps incorporated in the electrophoretic ink for the electronic display device for displaying ads sales items.

However, Gelbman teaches manipulable keycaps incorporated in the electrophoretic ink for the electronic display device for displaying ads sales items. Gelbman teaches a keypad (Fig. 10) with a circuit board carrying switches (Fig. 4 and column 11-13), and multiple keys displaceable toward the circuit board to activate a corresponding switch (Fig. 10), each key having visible area (*e.g., Fig. 10*), at least one of the areas comprising a designated area containing a field-stable electrophoretic ink wherein the keys include discrete manipulable keycaps, each having fixed physical shape in three dimensions, and wherein the ink is visible from an exposed surface of the manipulable keycap (*Fig. 10 and column 16, lines 54-67 and column 17, lines 1-8*).

Gelbman also teaches passing a field through only selected regions of the field-stable electrophoretic ink in the designated area to alter a visual characteristic of the ink in the selected regions to form a desired graphic label visible within the designated area (*Fig. 10 and column 16, lines 54-67 and column 17, lines 1-8; column 11-13*). Thus, Gelbman further teaches providing a data input device with one or more data input areas having visible labels associated with the input areas; allocating display time on a first one of the data input areas to a third party and transmitting a signal including data associated with the third party to the data input device from a remote location to alter the visible label of the first one of the data input areas of the data input

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device in response to the signal. Although Gelbman is only silent to limitation of “selling” set forth in the claim 45, Gelbman discloses allocating display time on a first one of the data input areas to a third party for displaying ads information and in Gelbman, the third party could be charged for displaying ads information by the owner of the display device. Thus, one of the ordinary skill knows how to calculate the charge based on the display time for displaying the ads.

It would have been obvious to one of the ordinary skill in the art at the time the invention was made to have incorporated Gelbman’s electrophoretic ink into the Hunter’s display device using the electronic ink technology. Gelbman teaches some of the claim limitations set forth in the claim 45 as well. Gelbman teaches a method of altering information displayed on an operable, designated data input area of a data input device (Fig. 10, column 16-17), the method comprising

Providing a data input device with multiple data input areas having visible labels associated with the input areas (*Fig. 10; column 16, lines 54-67 and column 17, lines 1-8*); and

Transmitting a signal over a wireless network (*e.g., column 16, lines 54-67 and column 17, lines 1-8*) to the data input device (*e.g., Fig. 10*) from a remote location to alter the visible label of at least one of the data input areas of the data input device in response to the signal (*Fig. 10; column 16, lines 54-67 and column 17, lines 1-8*).

One of the ordinary skill in the art would have been motivated to incorporate the electrophoretic ink into the Hunter’s display device to hold text or ads information for an extended period of time without consuming power and the message can be changed virtually instantly (See Hunter column 9).

Claim 47:

The claim 47 encompasses the same scope of invention as that of the claim 45 except additional claim limitation that the altered visible label contains one of advertisement, location, time or subscription-specific information. However, Hunter further discloses that the altered visible label contains one of advertisement, location, time or subscription-specific information (*e.g., Hunter column 9; See column 5, lines 22-45 and column 8, lines 20-45 wherein the customers or third parties directly purchase time from available slots according to a fixed fee schedule and all previously purchased slots and all unsold slots are auctioned through a bid process by selling time slots to a third party through auction and the format and content of displays may be controlled by each store or the same person who places the roadside billboard advertisements through system 20 or through a network from a personal computer*).

Claim 48:

The claim 48 encompasses the same scope of invention as that of the claim 45 except additional claim limitation of a cellular network or communication system. However, Gelbman and Hunter further disclose the claim limitation of a cellular network or communication system (Gelbman Figs. 1-6, 10 and column 16-17 and Hunter column 9).

Claim 49:

The claim 49 encompasses the same scope of invention as that of the claim 45 except additional claim limitation that the label is altered as a function of subscriber service selected by a user. However, Hunter and Gelbman implicitly disclose the claim limitation that the label is altered as a function of subscriber service selected by a user (*e.g., Hunter column 9; See column 5, lines 22-45 and column 8, lines 20-45 wherein the customers or third parties directly purchase*

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time from available slots according to a fixed fee schedule and all previously purchased slots and all unsold slots are auctioned through a bid process by selling time slots to a third party through auction and the format and content of displays may be controlled by each store or the same person who places the roadside billboard advertisements through system 20 or through a network from a personal computer).

Claim 50:

The claim 50 encompasses the same scope of invention as that of the claim 45 except additional claim limitation of receiving a label triggering signal from the data input device prior to transmitting said signal. However, Hunter and Gelbman further disclose the claim limitation of receiving a label triggering signal from the data input device prior to transmitting said signal (Hunter column 9 and Gelbman column 16, lines 55-65 as disclosing the manipulable keys for entering any user ads information).

Claim 51:

The claim 51 encompasses the same scope of invention as that of the claim 45 except additional claim limitation of the label being altered intermittently. However, Hunter and Gelbman further disclose the key presses being entered intermittently and displaying the images generated by the key presses on the E-ink material (Hunter column 9 and Gelbman column 16, lines 55-65 as disclosing the manipulable keys for entering any user ads information).

Claim 52:

The claim 52 encompasses the same scope of invention as that of the claim 51 except additional claim limitation that the label is altered intermittently to provide a series of graphics identifying third parties accessible by manipulating the data input area associated with the label.

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However, Hunter further discloses the claim limitation that the label is altered intermittently to provide a series of graphics identifying third parties accessible by manipulating the data input area associated with the label (*e.g., Hunter column 9; See column 5, lines 22-45 and column 8, lines 20-45 wherein the customers or third parties directly purchase time from available slots according to a fixed fee schedule and all previously purchased slots and all unsold slots are auctioned through a bid process by selling time slots to a third party through auction and the format and content of displays may be controlled by each store or the same person who places the roadside billboard advertisements through system 20 or through a network from a personal computer*).

Claim 54:

The claim 54 encompasses the same scope of invention as that of the claim 45 except additional claim limitation that the transmitted signal activates a graphic already resident in memory within the device. However, Hunter further discloses the claim limitation that the transmitted signal activates a graphic already resident in memory within the device (column 9).

Claim 55:

The claim 55 encompasses the same scope of invention as that of the claim 45 except additional claim limitation that the signal includes data describing a graphic previously unknown to the device. However, Hunter further discloses the claim limitation that the signal includes data describing a graphic previously unknown to the device (*See column 9. See column 5, lines 22-45 and column 8, lines 20-45 wherein the customers or third parties directly purchase time from available slots according to a fixed fee schedule and all previously purchased slots and all*

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unsold slots are auctioned through a bid process by selling time slots to a third party through auction)).

Re Claims 60, 79 and 85:

Hunter further discloses in column 9 altering the visible label on the first one of the data input areas to display content associated with the third party based on data provided by the signal (*See column 5, lines 22-45 and column 8, lines 20-45 wherein the customers or third parties directly purchase time from available slots according to a fixed fee schedule and all previously purchased slots and all unsold slots are auctioned through a bid process by selling time slots to a third party through auction*).

Re Claims 61, 80 and 86:

Hunter further discloses in column 9 advertising or promotional information associated with the third party (*See column 5, lines 22-45 and column 8, lines 20-45 wherein the customers or third parties directly purchase time from available slots according to a fixed fee schedule and all previously purchased slots and all unsold slots are auctioned through a bid process by selling time slots to a third party through auction*).

Re Claims 62, 81 and 87:

Hunter and Gelbman further disclose that the content comprises a graphic associated with a contest being promoted by the third party (Hunter column 9 and Gelbman column 16, lines 55-65 as disclosing the manipulable keys for entering any user information to the data input areas including an ads for a contest).

Re Claims 63, 82 and 88:

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Hunter and Gelbman further disclose that the feedback from the first one of the data input areas can be used to enter the contest (Hunter column 9 and Gelbman column 16, lines 55-65 as disclosing the manipulable keys for entering any user information to the data input areas including an ads for a contest).

Re Claims 64 and 83:

Hunter further discloses in column 9 the claim limitation of altering functionality of the first one of the data input areas to provide access to products or services offered by the third party based on data provided by the signal (*See column 5, lines 22-45 and column 8, lines 20-45 wherein the customers or third parties directly purchase time from available slots according to a fixed fee schedule and all previously purchased slots and all unsold slots are auctioned through a bid process by selling time slots to a third party through auction*).

Claim 65:

Hunter further discloses in column 9 altering functionality of the first one of the data input areas to provide direct access to the third party based on data provided by the signal (*See column 5, lines 22-45 and column 8, lines 20-45 wherein the customers or third parties directly purchase time from available slots according to a fixed fee schedule and all previously purchased slots and all unsold slots are auctioned through a bid process by selling time slots to a third party through auction*).

Claim 66:

Hunter further discloses in column 9 intermittently altering the visible label of the first one of the data input areas to display content associated with each of the multiple third parties based on data provided by the signal (*See column 5, lines 22-45 and column 8, lines 20-45*

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wherein the customers or third parties directly purchase time from available slots according to a fixed fee schedule and all previously purchased slots and all unsold slots are auctioned through a bid process by selling time slots to a third party through auction).

Re Claims 67 and 76:

Hunter further discloses in column 9 altering functionality of the first one of the data input areas substantially contemporaneously with the visible label based on data provided by the signal (*See column 5, lines 22-45 and column 8, lines 20-45 wherein the customers or third parties directly purchase time from available slots according to a fixed fee schedule and all previously purchased slots and all unsold slots are auctioned through a bid process by selling time slots to a third party through auction).*

Claim 68:

Hunter further discloses in column 9 intermittently altering functionality of the first one of the data input areas to provide intermittent access to each of the multiple third parties based on data provided by the signal (*See column 5, lines 22-45 and column 8, lines 20-45 wherein the customers or third parties directly purchase time from available slots according to a fixed fee schedule and all previously purchased slots and all unsold slots are auctioned through a bid process by selling time slots to a third party through auction).*

Re Claims 69, 71-73:

Hunter further discloses in column 9 intermittently altering functionality of the first one of the data input areas to provide intermittent access to products or services offered by each of the multiple third parties based on data provided by the signal (*See column 5, lines 22-45 and column 8, lines 20-45 wherein the customers or third parties directly purchase time from*

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available slots according to a fixed fee schedule and all previously purchased slots and all unsold slots are auctioned through a bid process by selling time slots to a third party through auction).

Claims 46, 53, 56-57, 74 and 77 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hunter US Patent No. 6,430,605 (hereinafter Hunter) and Gelbman U.S. Patent No. 6,924,781 (hereinafter Gelbman) and Takala et al. U.S. Patent No. 6,788,294 (hereinafter Takala).

Claim 46, 53, 56-57, 74 and 77:

Hunter teaches a method of altering information displayed on an operable, designated data input area of a data input device, the method comprising:

Providing a data input device with one or more data input areas having visible labels associated with the input areas (the electronic billboard has one or more data input areas for the pixels having visible labels with the pixels; see column 2, lines 50-60 wherein the most of the electronic sale items);

Selling display time on a first one of the data input areas to a third party (See column 5, lines 22-45); and

Transmitting a signal including data associated with the third party to the data input device from a remote location to alter the visible label of the first one of the data input areas of the data input device in response to the signal (See column 9 wherein electronic ink displays will hold text for an extended period of time without consuming power and the message can be

changed virtually instantly to a new message. In one embodiment, the format and content of displays may be controlled by each store without direct input from the other stores or the company's headquarters. The electronic ink meets the claim limitation of "visible label" and the advertisement signals are displayed on the display areas of the electronic display through the data input areas of the display).

It is not clear whether Hunter uses electrophoretic ink for the electronic display device for displaying ads sales items.

However, Gelbman teaches electrophoretic ink. Gelbman teaches a keypad (Fig. 10) with a circuit board carrying switches (Fig. 4 and column 11-13), and multiple keys displaceable toward the circuit board to activate a corresponding switch (Fig. 10), each key having visible area (*e.g.*, Fig. 10), at least one of the areas comprising a designated area containing a field-stable electrophoretic ink wherein the keys include discrete manipulable keycaps, each having fixed physical shape in three dimensions, and wherein the ink is visible from an exposed surface of the manipulable keycap (Fig. 10 and column 16, lines 54-67 and column 17, lines 1-8).

Gelbman also teaches passing a field through only selected regions of the field-stable electrophoretic ink in the designated area to alter a visual characteristic of the ink in the selected regions to form a desired graphic label visible within the designated area (Fig. 10 and column 16, lines 54-67 and column 17, lines 1-8; column 11-13). Thus, Gelbman further teaches providing a data input device with one or more data input areas having visible labels associated with the input areas.

It would have been obvious to one of the ordinary skill in the art at the time the invention was made to have incorporated Gelbman's electrophoretic ink into the Hunter's display device

using the electronic ink technology. Gelbman teaches some of the claim limitations set forth in the claim 45 as well. Gelbman teaches a method of altering information displayed on an operable, designated data input area of a data input device (Fig. 10, column 16-17), the method comprising

Providing a data input device with multiple data input areas having visible labels associated with the input areas (*Fig. 10; column 16, lines 54-67 and column 17, lines 1-8*); and

Transmitting a signal over a wireless network (*e.g., column 16, lines 54-67 and column 17, lines 1-8*) to the data input device (*e.g., Fig. 10*) from a remote location to alter the visible label of at least one of the data input areas of the data input device in response to the signal (*Fig. 10; column 16, lines 54-67 and column 17, lines 1-8*).

One of the ordinary skill in the art would have been motivated to incorporate the electrophoretic ink into the Hunter's display device to hold text or ads information for an extended period of time without consuming power and the message can be changed virtually instantly (See Hunter column 9).

However, Hunter is silent to manipulable keycaps. Gelbman teaches at column 16, lines 55-65 manipulable keycaps. Gelbman teaches the claim limitations set forth in Claim 46, 53, 56-57, 74 and 77 as well.

Takala also teaches manipulable keycaps.

Takala teaches a method of changing the visual appearance of a designated area of an exposed surface of a discrete, manipulable key of a keypad, the method comprising

Providing a keypad with a circuit board carrying switches, and multiple keys displaceable toward the circuit board to activate a corresponding switch, each key having visible area (e.g., *Takala teaches in column 1, lines 20-32 that a touch screen is a type of combination of keypad and display. Takala teaches in column 3, lines 10-30 a key pad implemented according to language-specific settings in which the selectors are clearly distinguished from the surrounding surface by their height and the differences in the key surfaces create a clear user interface where the boundaries between different selectors are clearly distinguishable and detectable by touch. Takala teaches in column 4, lines 14-45 that the key can be made to operate by raising the selector from the surrounding surface using the appropriate control matrix to increase the magnitude of the electric or magnetic field applied to the layer. Using the key device, an electronic drawing board can be implemented in which at least a part of the key element will be left as a flat drawing surface on which it is possible to draw by pressing the surface with a suitable pen or a finger and the pressure on the surface can be effectively detected in the ER layer with the surface raised up at the position of pressure by increasing the magnitude of the electric and/or magnetic field applied to the layer comprising a material whose volume expands with the added magnitude of the electric and/or magnetic field, thus creating a three-dimensional plot, see column 4, lines 55-67 and column 7, lines 24-40; see also Fig. 1 and column 5, lines 50-65), at least one of the areas comprising a designated area containing a field-stable electrophoretic ink, wherein each having a fixed physical shape in three dimension, and wherein the ink is visible from an exposed surface of the manipulable keycap (E-ink is a field-stable electrophoretic ink and Takala discloses providing E-ink and determining the height of the raised surface based on the magnitude or the duration of the key press, which may be used to*

improve visualization by varying the output height from the surface. If three-dimensionality is not needed, but a drawing plot is enough, this can be achieved effectively by controlling the imaging in the E-ink layer and this can be preferably implemented in the matrix controlling the E-ink layer, by darkening the surface at the touched spot; column 5, lines 1-12; see also Fig. 1 and column 5, lines 50-65 and column 6-8; When pressing a key-selector, the key is raised and its physical shape or volume remains unchanged as long as it remains in the depressed position and the key should be restored to its original position when it is released. Therefore, Takala has a key that does not change volume or shape when the key is either pressed or released); and

Passing a field through only selected regions of the field-stable electrophoretic ink in the designated area to alter a visual characteristic of the ink in the selected regions to form a desired graphic label visible within the designated area (*Takala discloses providing E-ink and determining the height of the raised surface based on the magnitude or the duration of the key press, which may be used to improve visualization by varying the output height from the surface. If three-dimensionality is not needed, but a drawing plot is enough, this can be achieved effectively by controlling the imaging in the E-ink layer and this can be preferably implemented in the matrix controlling the E-ink layer, by darkening the surface at the touched spot; column 5, lines 1-12; see also Fig. 1 and column 5, lines 50-65 and column 6-8*).

Takala teaches in column 3, lines 10-30 a key pad implemented according to language-specific settings in which the selectors are clearly distinguished from the surrounding surface by their height and the differences in the key surfaces create a clear user interface where the boundaries between different selectors are clearly distinguishable and detectable by touch. Takala discloses providing E-ink and determining the height of the raised surface.

Takala thus discloses the keys include the discrete manipulable raised selectors, each raised selector having a predefined physical shape because the height is pre-determined in relation to the magnitude and/or the duration of the key press (*e.g., the conductive field layers and the material layers have the predetermined shapes wherein the predetermined shape does not change with respect to each key character being displayed on the E-ink layer; see Takala column 4*) and the ink is visible from an exposed surface of the manipulable raised selectors because the imaging in the E-ink layer is visible from the exposed surface of the raised selectors (column 6, lines 21-57; column 5, lines 1-12 and column 3, lines 30-55).

Takala discloses the key selectors raised at certain height above the surrounding surface of the keypad and thus performs the function of keycaps. Takala's key selectors inherently have covers that serve as function of the keycaps because keycaps are covers for the keys.

Therefore, having the combined teaching of Hunter, Gelbman and Takala, it would have been obvious to one of the ordinary skill in the art, at the time the invention was made, to have incorporated keycaps covering the electronic ink layer.

Takala teaches a method of altering information displayed on an operable, designated data input area of a data input device, the method comprising

Providing a data input device with multiple data input areas having visible labels associated with the input areas (*Takala teaches in column 1, lines 20-32 that a touch screen is a type of combination of keypad and display. Takala teaches in column 3, lines 10-30 a key pad implemented according to language-specific settings in which the selectors are clearly distinguished from the surrounding surface by their height and the differences in the key*

surfaces create a clear user interface where the boundaries between different selectors are clearly distinguishable and detectable by touch. Takala teaches in column 4, lines 14-45 that the key can be made to operate by raising the selector from the surrounding surface using the appropriate control matrix to increase the magnitude of the electric or magnetic field applied to the layer. The keypad is implemented according to the language specific settings, one keypad for different languages is implemented and one keypad for different devices; e.g., user interface can be changed from a word processor keyboard into a camera user interface; see column 3-4 and the E-ink material 11 of Fig. 1 in the top layer can be used to display patterns such as text on the surface of the key element by appropriately placing the micro-capsuled pixels in the E-ink layer and the micro-capsuled pixels form the image in the E-ink layer 11 are controlled by an electric field matrix 12 formed of a set of electrodes; column 5, lines 50-65; see also column 6-8); and

Transmitting a signal over a wireless network (e.g., from MCU 31 of Fig. 3; see column 8, lines 25-35 wherein the MCU 31 is remote from the data input device 10) to the data input device (e.g., the data input device 10) from a remote location to alter the visible label of at least one of the data input areas of the data input device in response to the signal (A signal may be generated by the pen or a finger on the input device from a remote location such as a user remote from the input device; see column 4, lines 55-67; and the visible label on the key element is altered in response to the input signal; see column 3-4 and the E-ink material 11 of Fig. 1 in the top layer can be used to display patterns such as text on the surface of the key element by appropriately placing the micro-capsuled pixels in the E-ink layer and the micro-capsuled pixels form the image in the E-ink layer 11 are controlled by an electric field matrix 12 formed of a set of electrodes; column 5, lines 50-65; see also column 6-8. Moreover, in another perspective, the

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device controlling section 30 and the function block diagram 40 of Fig. 3 has the software stored in the memory unit 34 to control the user interface 42, to create the user interface 41, and to identify functionality 43 wherein creating the user interface include creating a key or keys to the key element and retrieving values for the local fields in the field matrices of the key element from memory and these values will then be input to the means for altering the field).

Having the combined teaching of Hunter, Gelbman and Takala, it would have been obvious to one of the ordinary skill in the art to have used keys for entering ads information for controlling the keys on the keypad because so that the keypad of Takala is made adaptable (See Takala column 3, lines 30-45) for different purposes.

One of the ordinary skill in the art would have been motivated to do so to adapt the keys of Takala and to control the keys for displaying ads information (Takala column 3, lines 30-45 and Gelbman column 16).

Claim 46:

The claim 46 encompasses the same scope of invention as that of the claim 45 except additional claim limitation that the data input area of the altered label contains a field-stable electrophoretic ink, the signal causing a field to be passed through selected regions of the field-stable electrophoretic ink to alter a visual characteristic of the ink to alter the graphic label. However, Takala further discloses the claim limitation that the data input area of the altered label contains a field-stable electrophoretic ink, the signal causing a field to be passed through selected regions of the field-stable electrophoretic ink to alter a visual characteristic of the ink to alter the graphic label (*Takala discloses functions implemented by software stored in the memory unit 34*

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to control the user interface 42, to create the user interface 41 and to identify functionalities 43; column 6-8).

Claim 52:

The claim 52 encompasses the same scope of invention as that of the claim 51 except additional claim limitation that the label is altered intermittently to provide a series of graphics identifying third parties accessible by manipulating the data input area associated with the label. However, Takala further discloses the claim limitation that the label is altered intermittently to provide a series of graphics identifying third parties accessible by manipulating the data input area associated with the label (column 5, lines 50-65).

Claim 56:

The claim 56 encompasses the same scope of invention as that of the claim 45 except additional claim limitation that the data input areas are exposed surfaces of manipulable keycaps. However, Takala further discloses the claim limitation that the data input areas are exposed surfaces of manipulable keycaps (column 3-4).

Claim 57:

The claim 57 encompasses the same scope of invention as that of the claim 56 except additional claim limitation that the input device is a key pad wherein the keycaps are manipulated by a user to depress the keycaps relative to the keypad. However, Takala further discloses the claim limitation that the input device is a key pad (column 3, lines 10-20) wherein

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the keycaps (key elements) are manipulated by a user to depress the keycaps relative to the keypad (column 3-4).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jin-Cheng Wang whose telephone number is (571) 272-7665. The examiner can normally be reached on 8:00 - 6:30 (Mon-Thu).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kee Tung can be reached on (571) 272-7794. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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jcw

